

COMPLETE SET OF PENDING CLAIMS:

1. (Currently Amended) A method of cleaning and drying one or more workpieces, comprising the steps of:
  - immersing the workpiece in an aqueous solution in a process vessel;
  - providing sonic agitation into the aqueous solution;
  - delivering an organic vapor to a region above a surface of the aqueous solution to create a reduced surface tension at the surface of the aqueous solution;
  - raising the workpiece out of the aqueous solution at a controlled rate, causing a liquid-vapor interface to pass across the workpiece surface, to dry the workpiece; and
  - continuing sonic agitation while the liquid-vapor interface passes across the workpiece surface.
2. (Currently Amended) The method of claim 1 further comprising the step of irradiating the workpiece, with electromagnetic radiation.
3. (Original) The method of claim 1 further comprising the step of delivering the organic vapor with a carrier gas.
4. (Original) The method of claim 1, further comprising the step of controlling the temperature of the aqueous solution.
5. (Original) The method of claim 1 wherein the workpiece are held in a vertical orientation.

6. (Original) The method of claim 1 wherein the sonic agitation is provided to the workpiece through the aqueous solution from one or more sonic transducers on a surface of the process vessel.

7. (Original) The method of claim 1 wherein the controlled rate of raising is from 0.5mm/s to 10mm/s.

8. (Original) The method of claim 4 wherein the aqueous fluid is provided at a temperature of 15° C to 30° C.

9. (Original) The method of claim 1 wherein the aqueous solution includes at least one additive selected from the group consisting of HF, HCl, H<sub>2</sub>O<sub>2</sub>, NH<sub>4</sub>OH, O<sub>3</sub>, and H.

10. (Currently Amended) The method of claim 1 wherein the organic vapor is selected from the group consisting of isopropyl alcohol, methanol, and acetone, ~~CF<sub>4</sub>, and CO<sub>2</sub>~~.

11. (Original) The method of claim 1 further comprising the step of continuously delivering fresh aqueous solution to the process vessel to continually refresh the surface of the aqueous solution.

12. (Original) The method of claim 1 further comprising the step of supporting multiple workpieces in the process vessel.

13.-20. (Cancelled)

21. (Currently Amended) A method of processing a workpiece, comprising the steps of:

immersing the workpiece in an aqueous solution in a process vessel;

providing sonic agitation to a surface of the workpiece;

delivering [an] ~~a organic vapor~~ of an organic solvent to a region above a surface of the aqueous solution to create a reduced surface tension at the surface of the aqueous solution;

removing the workpiece from the aqueous solution at a controlled rate such that a liquid-vapor interface at the surface of the aqueous solution passes across the workpiece surface; and

continuing sonic agitation while the liquid-vapor interface passes across the workpiece surface.

22. (New) The method of claim 21 further comprising the step of irradiating the workpiece, with electromagnetic radiation..

23. (New) The method of claim 21 further comprising the step of delivering the organic vapor with a carrier gas.

24. (New) The method of claim, 21 further comprising the step of controlling the temperature of the aqueous solution.

25. (New) The method of claim 21 wherein the workpiece are held in a vertical orientation.

26. (New) The method of claim 21 wherein the sonic agitation is provided to the workpiece through the aqueous solution from one or more sonic transducers on a surface of the process vessel.

27. (New) The method of claim 21 wherein the organic solvent has a density less than the density of the aqueous solution.

28. (New) The method of claim 21 wherein the organic vapor is selected from the group consisting of isopropyl alcohol, methanol, and acetone.

29. (New) The method of claim 21 further comprising the step of continuously delivering fresh aqueous solution to the process vessel to continually refresh the surface of the aqueous solution.

30. (New) The method of claim 21 further comprising the step of pressurizing an interior region of the vessel.

31. (New) A method of processing a workpiece, comprising the steps of:

immersing the workpiece into a bath of an aqueous solution in a process vessel;

sonically agitating a surface of the workpiece;

removing the workpiece from the bath of aqueous solution at a controlled rate, with a surface film of the aqueous solution on the workpiece;

continuing to sonically agitate the surface of the workpiece while removing the workpiece from the aqueous solution;

dissolving a gas or vapor into the surface film of the aqueous liquid, causing the surface film of the aqueous liquid on the workpiece to be pulled into the bath of aqueous liquid, thereby leaving the workpiece substantially dry.

32. (New) The method of claim 31 wherein the surface of the workpiece is sonically agitated by transmitting sonic energy from a transducer in the vessel, through the aqueous solution and to the surface of the workpiece.

33. (New) The method of claim 31 wherein the step of reducing the surface tension includes delivering IPA into the vessel.

34. (New) A method of cleaning and drying one or more workpieces in a single process vessel, comprising the steps of:

placing the workpieces into a bath of an aqueous solution in the process vessel;

providing sonic energy to the aqueous solution;

removing the workpieces from the aqueous solution at a controlled rate;

continuing to provide sonic energy to the aqueous solution, while removing the workpieces from the aqueous solution; and

reducing the surface tension of the aqueous liquid at the surface of the aqueous solution using isopropyl alcohol, methanol, or acetone, and causing aqueous solution on the workpieces to be pulled into the bath and leaving the workpieces substantially dry as they are removed from the bath of aqueous liquid.

35. (New) A method of cleaning and drying one or more workpieces, comprising the steps of:

immersing the workpiece in an aqueous solution in a process vessel;

providing sonic agitation into the aqueous solution;

delivering an organic vapor to a region above a surface of the aqueous solution to create a reduced surface tension at the surface of the aqueous solution;

raising the workpiece out of the aqueous solution at a controlled rate, and without applying any other liquid to the workpiece, and with the reduced surface tension at the surface of the aqueous solution pulling liquid off of the workpiece surface, to dry the surface; and

continuing sonic agitation while the workpiece is raised out of the aqueous solution.